

KEY WORDS: TRIANGLE, ALGEBRAIC EXPRESSION, VALUE, DEGREE, SUM, EQUAL, EQUATION, COMBINE, LIKE TERMS, SUBTRACT, DIVIDE, ANGLE, CHECK, ANSWER, CORRECT

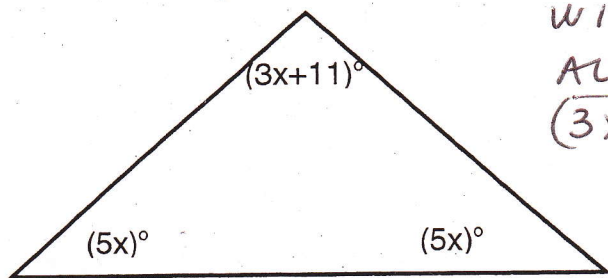
Name _____ Date _____

Geometry Constructed Response #7

Rubric:

- FACT; SUM OF INTERNAL ANGLES OF TRIANGLE = 180°
1. State in your own words what kind of information is given (1-3 sentences) 1 point
 2. What is the objective? (What do you have to do to solve the problem?) (1-2 sentences).... - 1 point
 3. Show all calculations and explain all steps to solve the problem (4-7 sentences).
Make tables, drawings, and graphs if necessary - 7 points
 4. Make a conclusion. Write down the answer with short comment(s) (1-2 sentences)..... - 1 point
- Total - 10 points

Solve for x:



1. WE ARE GIVEN TRIANGLE WITH ANGLES WRITTEN AS ALGEBRAIC EXPRESSIONS: $(3x+11)^\circ$, $(5x)^\circ$, AND $(5x)^\circ$

2. WE HAVE TO FIND THE VALUE OF X IN DEGREES.

3. WE KNOW THAT THE SUM OF THREE ANGLES OF ANY TRIANGLE IS EQUAL TO 180° . WE CAN NOW WRITE EQUATION:

$$5x + (3x+11) + 5x = 180$$

COMBINE LIKE TERMS ON THE RIGHT SIDE

$$13x + 11 = 180$$

SUBTRACT 11 FROM LEFT AND RIGHT:

$$\begin{array}{r} 13x = 169 \\ \underline{13} \quad \underline{13} \end{array}$$

DIVIDE LEFT AND RIGHT BY 13

$$x = 13$$

CHECK OUR ANSWER: $5x = 5 \cdot 13 = 65^\circ$

$$3x + 11 = 3 \cdot 13 + 11 = 50^\circ, \quad 5x = 5 \cdot 13 = 65^\circ$$

$$\text{ADD ALL ANGLES: } 65^\circ + 65^\circ + 50^\circ = 180^\circ$$

4. THE ANSWER IS CORRECT. $x = 13$